REMARKS

Claims 1-23 are currently pending. Claims 21-23 were previously withdrawn. Claims 1 and 17 are amended. Claim 4 is cancelled. Reconsideration of the action mailed February 9, 2007, is requested in light of the following remarks.

The Examiner rejected claims 1-2 and 17 under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent Publication No. 2002/0126355 ("Bulow"). The Examiner rejected claims 1-4 and 7-20 under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent Publication No. 2003/0011847 ("Dai").

The Examiner rejected claim 5 under 35 U.S.C. § 103(a) as allegedly unpatentable over Dai in view of U.S. Patent Publication No. 2004/0086274 ("Wan"). The Examiner rejected claim 6 under 35 U.S.C. § 103(a) as allegedly unpatentable over Dai and Wan in further view of U.S. Patent No. 5,822,094 ("O'Sullivan"). Applicant respectfully traverses the rejections.

Section 102 Rejections

Bulow

Claim 1 stands rejected over Bulow. Claim 1 is directed to a communications device that includes an optical domain adaptive dispersion compensation module ("OADCM") coupled to an electrical domain adaptive distortion compensation module ("EADCM"). The OADCM is operable to apply a first dispersion compensation to a received signal having a plurality of wavelengths and the EADCM is operable to apply a second dispersion compensation to the received signal. The communications device also includes a controller coupled to both the OADCM and the EADCM. The controller is operable to selectively control a level of the first and the second dispersion compensation to be applied to the received signal, where the controller controls the EADCM based on feed forward information provided to the controller from the OADCM.

Bulow discloses a dispersion compensation device that includes a first dispersion compensator that provides a first order compensation and a second dispersion compensator that provides a second order compensation. *See* FIG. 3; Abstract. The Examiner states that Bulow

discloses a controller operable to selectively control a level of the first and the second dispersion compensation to be applied to the received signal. In particular, the Examiner states that the combination of components 23, 24, 27, and 28 in FIG. 3 disclose the recited controller. Applicant respectfully disagrees.

Bulow discloses two separate feedback loops for separately controlling the two dispersion compensators. A portion of the output from the first dispersion compensator is fed into a first feedback loop including components 23 and 24. *See* FIG. 3, paragraphs 48 and 49. Component 24 provides adaptation logic that closes the first feedback loop and acts on the first dispersion compensator. *See* paragraph 49. The first feedback loop, including components 23 and 24, is independent of the second dispersion compensator. *See* FIG. 3.

The remaining output of the first dispersion compensator passes through the second dispersion compensator. *See* FIG. 3. A portion of the output from the second dispersion compensator is fed into a second feedback loop including components 27 and 28. *See* FIG. 3; paragraph 50. Component 28 provides a second adaptation logic that acts on the second dispersion compensator. *See* paragraph 50. Again, however, the second feedback loop, including components 27 and 28, is independent of the first dispersion compensator. *See* FIG. 3.

The two feedback loops apply a control to their respective dispersion compensators. However, they operate independently of each other. Thus, Bulow does not disclose or suggest that control of the second dispersion compensator is based on feed forward information provided to the controller from the first dispersion compensator.

Applicant respectfully submits that claim 1, as well as claims 2-12, which depend from claim 1 are allowable over Bulow.

Claim 17 stands rejected over Bulow. Claim 17 is directed to a method that includes measuring signal distortion of an electrical signal having a plurality of channels. The signal distortion measurements are processed to produce at least one control value for one of an optical domain adaptive dispersion compensation module ("OADCM") or an electrical domain adaptive distortion compensation module ("EADCM"). The control value is selectively applied to

EADCM to provide dispersion compensation to the optical signal, using feed forward information provided to the controller from the OADCM.

Bulow does not disclose or suggest selectively applying a control value to the EADCM to provide dispersion compensation to the optical signal, using feed forward information provided to the controller from the OADCM. For at least the same reasons as set forth above with respect to claim 1, claim 17 is in condition for allowance. Claims 18-20, which depend from claim 17, are allowable at least because of their dependency to claim 17.

Dai

Claim 1 stands rejected over Dai. Dai discloses a dispersion compensation system. The system includes a first compensation device in the optical domain and a second compensation device in the electrical domain. *See* Abstract; FIG. 1.

The Examiner states that Dai discloses the Applicant's claimed controller as a digital signal processor 28 of FIG. 1 and paragraph 59. Applicant respectfully disagrees. The digital signal processor 28 receives error signals which are processed to generate feedback signals. *See* paragraph 59. The generated feedback signal from the digital signal processor does control the second dispersion compensator. *See* FIG. 1. However, the first dispersion compensator is controlled by a separate controller. The two optical dispersion compensators shown in FIG. 1 (components 7 and 9) are each individually controlled by controllers 8 and 10, respectively.

The Examiner states that Dai discloses controlling the EADCM based on feed forward information in FIG. 1. Applicant respectfully disagrees. FIG. 1 does not disclose or suggest any feed forward information provided to the controller from the first dispersion compensator. Furthermore, FIG. 1 does not disclose or suggest that the second dispersion compensator is controlled based on information from the first dispersion compensator. Applicant respectfully submits that claim 1, as well as claims 2-12, which depend from claim 1, are in condition for allowance.

Claim 13 stands rejected over Dai. Claim 13 is directed to an EADCM that includes a multi-phase eye quality monitor and an equalizer circuit operable to perform dispersion compensation. The multi-phase eye quality monitor is operable to provide signal distortion measurements of an incoming electrical signal received at the EADCM.

The Examiner states that Dai discloses a multi-phase eye quality monitor as eye opening Y detector and eye opening X detector in FIG. 1. Applicant respectfully disagrees. In Dai, the eye-opening detectors are disclosed with respect to FIG. 4 and are part of the error detection for the digital signal processor 28. *See* FIG. 1, paragraphs 64-65. However, the eye-opening detectors are not part of the second dispersion compensator (which the examiner equates to the claimed EADCM), as required by claim 13. Instead, the components of the second dispersion compensator are described with respect to FIG. 2. The second dispersion compensator is simply an equalizer and does not include a multi-phase eye quality monitor. *See* paragraphs 52-54; FIG. 2.

Dai does not disclose or suggest a dispersion compensator that includes both a multi-phase eye quality monitor for providing signal distortion measurements and an equalizer circuit for performing dispersion compensation. The second dispersion compensator in Dai does not provide signal distortion measurements. Therefore, the dispersion compensator does not perform the same functions of the EADCM in claim 13, which includes the multi-phase eye quality monitor.

Furthermore, claim 13 recites that the multi-phase eye quality monitor is operable to provide signal distortion measurements of an incoming electrical signal received at the EADCM. Thus, the distortion measurement is made on a signal entering the EADCM. However, in Dai, the eye-opening detectors do not receive the incoming electrical signal at the dispersion compensator. Instead, the Y eye detector receives signals leaving the dispersion compensator. *See* FIG. 1. Additionally, the X eye detector does not receive an input associated with the dispersion compensator at all. *See* FIG. 1. Thus, the relied upon X and Y eye detectors do not provide the recited signal distortion measurements. Even if combined into the equalization amplifier, the eye detectors would still fail to meet the features of claim 13.

Applicant respectfully submits that claim 13, as well as claims 14-16, which depend from claim 13, are in condition for allowance.

Claim 17 stands rejected over Dai. Claim 17 is directed to a method that includes measuring signal distortion of an electrical signal having a plurality of channels. The signal distortion measurements are processed to produce at least one control value for one of an optical domain adaptive dispersion compensation module ("OADCM") or an electrical domain adaptive distortion compensation module ("EADCM"). The control value is selectively applied to EADCM to provide dispersion compensation to the optical signal, using feed forward information provided to the controller from the OADCM.

Claim 17 is allowable for the same reasons as set forth above for claim 1. Furthermore, claim 17 also recites measuring signal distortion of an electrical signal having a plurality of channels. However, the device disclosed by Dai only operates on a single optical channel. *See* Abstract; paragraph 29. Consequently, Dai does not disclose or suggest measuring signal distortion of an electrical signal having a plurality of channels.

Applicant respectfully submits that claim 17, as well as claims 18-20, which depend from claim 17, are in condition for allowance.

Conclusion

For the foregoing reasons, the applicant submits that all claims are in condition for allowance.

By responding in the forgoing remarks only to particular positions taken by the examiner, the applicant does no acquiesce with other positions that have not been explicitly addressed. In addition, the applicants' arguments for patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist.

Please apply any charges or credits to deposit account 06-1050.

Respectfully submitted,

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